

Detail and Context of 2011 Net Cost Report Data Analysis

Overview

The following tables and discussion are a summary of the analysis of as-reported data contained in 2011 Net Cost Reports, submitted pursuant to Title 14 of the California Code of Regulations (CCR) section 18660.10, pertaining to the management of covered electronic waste (CEW). This work was performed by staff of the CalRecycle electronic waste recycling program.

In general, the tables show the reported net costs per pound of recovering and recycling CEW among system participants when the as-reported costs are examined, revealing weighted average, mean, and median costs. They also show the percentage of participating organizations that reported costs lower than the current standard payment rates – \$0.16/lb recovery and \$0.23/lb recycling. Figures are presented in cents per pound unless otherwise noted.

Also presented are a comparison and a discussion of 2011 data with respect to previous years' data.

Analysis

Program compiled “as-reported” 2011 data and examined it in a variety of ways to gain insights into industry costs and arrive at a payment rate recommendation. Wide variations in costs were reported by both collectors and recyclers. This is to be expected due to the range of business practices and scales within the industry. It is also certain that there are errors contained in the reported costs and revenues in some Net Cost Reports, as evidenced by some reports alleging recovery cost of several dollars per pound. To compensate for the likelihood of extreme instances of faulty data affecting calculated industry averages, program excluded reported recovery costs in excess of plus or minus \$1 per pound.

The following tables include:

1. An analysis of submitted 2011 Net Cost Reports (excluding outlier recovery costs)
2. An analysis of 2011 Net Cost Reports from operations exceeding one million pounds
3. A comparison of calculated Weighted Average Costs 2005 - 2011

Table 1. Analysis of Submitted 2011 Net Cost Reports (excluding recovery costs +/- \$1 per lb.)

As-Reported 2011 Data		Weighted Average*	Mean	Median	Percentage Below Standard Payment
Recovery (445)	Revenue	6.3			-
	Cost	21.5			-
	Net Cost	15.2	15.2	12.0	60%
Recycling (44)	Revenue	12.4			-
	Cost	31.7			-
	Net Cost	19.2	36.4	19.0	55%
Combined Net Costs		34.4	51.6	31.0	-

* The weighted average reflects the overall industry cost per pound, calculated as if the industry operated as a single organization – i.e., by dividing the collective reported costs and revenues (total net cost) by total pounds recovered and/or recycled by all participants in the study sample

The above Table 1 shows the analysis of as-reported 2011 net costs for recovering and recycling covered electronic waste using reports submitted by CEW system participants, but excluding those reports that cited recovery costs in excess of more than \$1 or -\$1 per pound. No dual entities reported recovery costs that exceeded that range.

The data reveal that on the basis of a simple average (mean) the reported costs of recyclers were substantially higher the standard recycling payment rate, while the reported collectors' costs were slightly lower than the recovery payment rate. The weighted average showed that the recyclers' costs were well below the recycling payment rate, and the collectors' costs remained slightly below the current recovery payment rate as well. An examination of the median (mid-point of all reported cost) in Table 1 shows that the payment rates exceeded the reported costs for most collectors (60%) and most recyclers (55%).

Table 2. Analysis of 2011 Net Cost Reports (operations exceeding one million pounds)

As-Reported 2011 Data		Weighted Average	Mean	Median	Percentage Below Standard Payment Rate
Recovery (42)	Revenue	4.8			-
	Cost	20.7			-
	Net Cost	16.0	17.8	16.5	48%
Recycling (22)	Revenue	12.5			-
	Cost	31.2			-
	Net Cost	18.6	17.7	16.5	64%
Combined Net Costs		34.6	35.5	33.0	-

The above Table 2 shows a re-analysis of as-reported 2011 net costs for recovering and recycling CEW by those operations with an annual throughput in excess of one million pounds. This represents slightly less than 10 percent of all collectors, and about half of all recyclers.

This alternative perspective shows costs reported by large volume collectors as at or exceeding the existing recovery payment rate when analyzed as either a mean or weighted average. This look at the data also moves the percentage of collectors whose reported costs are covered by the standard recovery rate to just below half (48%). The slightly higher weighted average costs for large volume CEW recovery activities appears counter intuitive, since economies of scale typically lower marginal costs. However, the ongoing practice of purchasing accumulated CEW from third-party handlers in order to maximize volume may be contributing to the apparent higher costs for these larger operations.

The large volume recycler cost calculations for weighted average did not change substantially as compared to all recyclers, although the simple mean was reduced by nearly half. This is indicative of lower volume operations affecting the average of reported individual costs. The percentage of large volume recyclers whose individual reported costs are covered by the recycling payment rate moved higher (64%) when compared to all recyclers.

Table 3. A Comparison of Calculated Weighted Average Costs 2005-2011

Comparisons of Weighted Average Net Cost	2005	2006	2007	2008	2009	2010	2011
Recovery	17.1	16.7	14.8	16.6	14.4	15.3*	15.2*
Recycling	25.2	21.5	21.0	22.8	18.7	18.1	19.2
Combined	42.3	38.2	35.8	39.4	33.1	33.4	34.4

**excludes reported recovery costs in excess of \$1 and -\$1 per pound*

The above Table 3 compares the calculated weighted average net costs for CEW recovery and recycling as reported over the life of the program. This table reflects the calculated 2011 costs that exclude the outlier data discussed in relation to Table 1. As can be seen, the 2011 weighted averages continue the trend of relatively stable costs over the past few years.

Conclusion

The calculated weighted average net costs per pound to recover and recycling CEW in California based on data submitted in required Net Cost Reports reflecting collector and recycler operations during 2011 do not support increasing or decreasing the standardized statewide payment rates.

The combined reported costs appear to be slightly less than the levels upon which payment rates were last adjusted downward in 2008 (based on 2007 operational data), and are only slightly higher than, but relatively similar to, the costs calculated two years ago when CalRecycle determined that no rate changes were warranted.